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THE NOMENCLATURAL STATUS OF THE TAXA OF THE MYXOBACTERALES (SCHIZOMYCETES)[1]

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SUMMARY: A list of the names that have been proposed for the several taxa of the order Myxobacterales (Schizomycetes) is annotated. The original publications of descriptions and names have been examined and verified. The validity of publication and legitimacy of the names have been evaluated on the basis of the directives of the International Code of Nomenclature of the Bacteria and Viruses. Each entry includes the author(s) of the name, year of publication, page on which the name is proposed, nomenclatural status, homonyms and synonyms, both objective and subjective. The list includes the names of 4 Classes, 11 Orders, 9 Families, 2 Subfamilies, 33 Genera, 13 Sections, 206 Species and 20 Varieties, a total of 298 entries and a bibliography of 102 references.

No check list of the names of the taxa of the Myxobacterales has previously been published. An attempt has been made herein to prepare such a list after a reasonably complete review of pertinent publications. The literature was reviewed up to December, 1959 and in some cases to December, 1960. All articles cited in the appended list of references have been examined. The nomenclatural status of

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each name has been evaluated by reference to the International Code of Nomenclature of the Bacteria and Viruses (1958).

The following example of the format of each entry will illustrate:

1 2 3 4 5

C. serpens Thaxter 1892, 403. (Sp. Sch). (Val. Pub., Leg.)
6 not Chondromyces serpens Quehl 1906, 16.
7 Archangium serpens (Thaxter) Jahn 1924, 72.
Ophiocystia serpens (Thaxter) Enderlein 1924, 4.
8 Source: Lichens.

1. Name of the taxon. Names of suprageneric taxa are in capitals, names of genera and sections have wavy underline (indicating bold face type); and names of species and varieties are designated by the abbreviation (first letter) of the generic name (Chondromyces in the above example) followed by the specific epithet, both with straight underline (indicating italics).

2. Author(s) of the name.

3. Year of publication followed by the page of the publication on which the name was proposed. All these citations are included in the list of references appended.

4. Taxonomic rank of the name and that of the class to which the taxon belongs, e.g. the above example is a species of Schizomycetes. The Myxobacterales are here considered to be an order of the Class Schizomycetes. In some cases, however, species of myxobacters have been placed in genera of other plant higher taxa such as the algae and fungi.

5. The rules of the Bacteriological Code are used to assess the validity of publication and legitimacy of the names. Names which are not validly published have no standing in nomenclature. A legitimate name is one which is in accordance with the Rule of Nomenclature, while an illegitimate name is one which is contrary to the Rules. The term "legitimate" is synonymous with "available" but not with the term "correct." A "correct" name according to the Bacteriological Code (Principle 5) is a name of a taxon with a particular circumscription, position or rank, which must be adopted for it under the rules. No attempt is made to evaluate correctness as this is dependent upon circumscription, etc.

6. Homonyms of the name. Later homonyms of the names

of taxa of bacteria, other plants and protozoa are illegitimate.

7. Synonyms of the name of the taxon. The objective synonyms are first listed chronologically. Objective synonyms are two or more names for the same taxon based upon the same nomenclatural type. In the example given above, the species name Archangium serpens (Thaxter) Jahn is an objective synonym of Chondromyces serpens Thaxter since they are both names of the same species. The generic name Apelmocoena Enderlein is an objective synonym of the genus Synangium Jahn as both were based upon the same type species, Chondromyces sessile Thaxter. Synangium Jahn becomes a later objective synonym of Apelmocoena Enderlein inasmuch as Jahn's name was published later than Enderlein's. In this case Synangium is illegitimate as a later objective synonym.

Subjective synonyms are also listed in chronological order. Subjective synonyms are two or more names which a later author regards as being names of the same taxon. Such subjective synonyms are not based upon the same type. When a subjective synonym is listed, the author who first proposed the synonomy is cited.

8. The source of the organism as given in the original description.

The name of the type species is included in entries of generic names. The manner in which the type species was designated whether by monotypy, by original designation or by subsequent designation is noted. The name of the author who subsequently designated the type is cited, and the basionym (epithet-bringing synonym) is also given.

Some Special problems

Some problems encountered deserve consideration. The first involves the generic name Chondrococcus Jahn. In 1847, Kützing proposed and validly published Chondrococcus as the name of a genus of red algae. Jahn (1924) did not cite Kützing's name in his proposal of the generic name Chondrococcus. Chondrococcus Jahn is a later homonym of Kützing and therefore illegitimate. Stanier (1957), who noted this case of homonomy in his treatement of the myxobacters in the seventh edition of Bergey's Manual, stated that:

"In spite of the fact that Chondrococcus Jahn appears

> to be an illegitimate homonym of the algal genus Chondrococcus Kützing, the former name is retained in this edition because of general usage and because Chondrococcus Kützing is not, as far as has been determined, in current use by algologists."

If Chrondrococcus Kützing is, in fact, not currently recognized by algologists and Chondrococcus Jahn is generally used by bacteriologists, there would be a strong case for conservation of the name Chondrococcus Jahn by international agreement. However, a search of the literature on the nomenclature of the algae (see also DeToni 1903, 1673; Silva 1952, 304) indicates that the name Chondrococcus Kützing is, in fact, currently accepted by algologists.

The generic name Dactylocoena Enderlein (1924, 6) apparently is the only objective synonym of Chondrococcus Jahn (1924, 85) and under the rules replaces it.

A second problem involves Enderlein's proposals of several new generic names for myxobacters (Enderlein 1924). Jahn (1924) independently proposed names for some of these genera and the legitimacy of these respective synonyms is dependent upon priority of publication. The publisher of Jahn's monograph was unable to provide the publication date because of war destruction of his records. Enderlein (1925, 240) states that his 1924 paper was published in October of that year and Jahn's was published in November. This would seem to give Enderlein's names priority.

Specifically, the following generic names are involved. First, Apelmocoena Enderlein and Synangium Jahn are objective synonyms as based upon the same type. Jahn also named three genera which included in the respective lists of species the type species of three genera already proposed by Enderlein. Jahn did not himself designate any type species for his genera. Archangium Jahn included the type species of Ophiocystia Enderlein; Podangium Jahn the type species of Monocystia Enderlein and Sorangium Jahn the type species of Cystoecemia Enderlein. A name (Rule 24a) is illegitimate if it includes the type of a name which the authors should have adopted under one or more of the Rules. Since Jahn included the type species of earlier genera when he proposed the three names listed above, his names are illegitimate. Jahn's names have been used from the time

of their proposal and insofar as can be determined no other author has ever used Enderlein's names. Recognition of the illegitimacy of Jahn's names will cause much confusion in nomenclature. It therefore seems proper to seek international agreement to conserve Synangium Jahn, Archangium Jahn, Podangium Jahn and Sorangium Jahn against the corresponding synonyms of Enderlein on the basis that their rejection would "throw science into confusion" (Principle 1, Bacteriological Code). A request for an opinion to conserve the above names is being drawn up and will be submitted to the Judicial Commission

ABBREVIATIONS USED IN THE LIST

Ord.	=	Order
Fam.	=	Family
Gen.	=	Genus
Sect.	=	Section
Sp.	=	Species
Var.	=	Variety
Sch.	=	Schizomycetes
Val. Pub.	=	Validly published
Not Val. Pub.	=	Not validly published
Leg.	=	Legitimate
Illeg.	=	Illegitimate
Orig. des.	=	Original designation
Subs. des.	=	Subsequent designation
Orth. Var.	=	Orthographic variant

ANNOTATED CATALOGUE OF THE NAMES OF THE MYXOBACTERALES (SCHIZOMYCETES)

AGGREGATAE Jahn 1911, 204. (Sect. Sch.) (Val. Pub., Leg.)
Second section Chondromyces Berkeley and Curtis; species C. lichenicolus Thaxter, C. erectus Thaxter and C. sessilis Thaxter.

ANGIOCOCCALES Tchan, Pochon and Prévot 1948, 398. (Ord. Sch.) (Val. Pub., Leg.)
Type fam.: none des.

Angiococcus Jahn 1924, 89. (Gen. Sch.) (Val. Pub., Leg.)
Type sp. (monotype): Angiococcus disciformis (Thaxter) Jahn 1924, 89.

A. cellulosae (sic) Mishustin 1938, 431. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

A. disciformis (Thaxter) Jahn 1924, 89. (Sp. Sch.) (Val. Pub. Leg.)
Myxococcus disciformis Thaxter 1904, 412.
Type sp. of genus Angiococcus Jahn 1924, 89.
Source: Muskrat dung, deer dung.

A. moliroseus Peterson 1959b, 169. (Sp. Sch.) (Val. Pub., Leg.)
Source: Bark of living tree.

Apelmocoena Enderlein 1924, 4. (Gen. Sch.) (Val. Pub., Leg.)
Synangium Jahn 1924, 79.
Type sp. (orig. des.): A. sessilis (Thaxter) Enderlein 1924, 4.
(Basionym: Chondromyces sessilis Thaxter 1904, 411).
Comment: see Introduction p. 32.

A. lanuginosa (Kofler) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub. Leg.)
Chondromyces lanuginosus Kofler 1913, 861.
Chondromyces sessilis Thaxter 1904, 411. (see Stanier in Bergey et al. 1957, 877).
Source: Decaying wood, dung of herbivores and soil.

Apelmocoena (continued)
A. lichenicola (Thaxter) Enderlein 1924, 4. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces lichenicolus Thaxter 1892, 402.
Podangium lichenicolum (Thaxter) Jahn 1924, 81, q.v.
Monocystia lichenicola (Thaxter) Enderlein 1925, 243.
Source: Lichens.

A. muscorum (Thaxter) Enderlein 1924, 4. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces muscorum Thaxter 1904, 411.
Stelangium muscorum (Thaxter) Jahn 1924, 72, q.v.
Source: Hepatics on beech trees.

A. sessilis (Thaxter) Enderlein 1924, 4. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces sessilis Thaxter 1904, 411.
Synangium sessile (Thaxter) Jahn 1924, 79, q.v.
Type sp. of Apelmocoena Enderlein 1924, 4.
Source: Decaying wood, dung of herbivores and soil.

A. thaxteri (Faull) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces thaxteri Faull 1916, 231.
Synangium thaxteri (Faull) Jahn 1924, 79. q.v.
Source: Decaying wood, dung of herbivores and soil.

ARCHANGIACEAE Jahn 1924, 66. (Fam. Sch.) (Val. Pub., Leg.)
Type gen.: Archangium Jahn 1924, 66.

Archangium Jahn 1924, 66. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24a)
Ophiocystia Enderlein 1924, 4.
Type sp. (subs. des. Bergey et al. 1934, 592): Archangium gephyra Jahn 1924, 67.
Comment: see Introduction p. 32.

Archangium assurgens Krzemieniewski 1927, 80. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Archangium primigenium var. assurgens Jahn 1924, 69.
Source: Rabbit dung.

A. flavum (Kofler) Jahn 1924, 71. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium flavum Kofler 1913, 864.
Ophiocystia flava (Kofler) Enderlein 1925, 243.
Source: Rabbit dung.

A. gephyra Jahn 1924, 67. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces serpens Quehl 1906, 16.
not Chondromyces serpens Thaxter 1892, 403.
Ophiocystia gephyra (Jahn) Enderlein 1925, 243.
Type sp. of Archangium Jahn 1924, 66.
Source: The dung of deer, rabbit and hare; soils of Poland; on old decaying lichens.

A. primigenium (Quehl) Jahn 1924, 69. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium primigenium Quehl 1906, 16.
Ophiocystia primigenium (Quehl) Enderlein 1925, 243.
Source: Rabbit dung.

A. primigenium var. assurgens Jahn 1924, 69. (Var. Sch.) (Val. Pub., Illeg.: Rule 24a)
Archangium assurgens (Jahn) Krzemieniewska and Krzemieniewski 1927, 80.

A. serpens (Thaxter) Jahn 1924, 72. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces serpens Thaxter 1892, 403.
not Chondromyces serpens Quehl 1906, 16. See Jahn 1924, 72.
Ophiocystia serpens (Thaxter) Enderlein 1924, 4.
Source: Decaying lichens.

Archangium (continued)
A. thaxteri Jahn 1924, 71. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Ophiocystia thaxteri (Jahn) Enderlein 1924, 243.
Source: Rabbit dung.

ASPORANGIALES Tchan, Pochon and Prévot 1948, 398. (Ord. Sch.) (Val. Pub., Leg.)
Type fam. (monotype): Cytophagaceae Stanier 1940, 630.

Bacillus chondromycetis glomerati Zederbauer 1903, 478. (Sp. Sch.) (Val. Pub., Leg.)
Source: Beech stumps.
Comment: See Chondromyces glomeratus Zederbauer 1903, 477.

Bacillus columnaris Davis 1922, 263. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga columnaris (Davis) Garnjobst 1945, 127.
Chondrococcus columnaris (Davis) Ordal and Rucker 1944, 18.
Source: Fish lesions.

Bacterium myxococci incrustantis Zederbauer 1903, 475. (Sp. Sch.) (Val. Pub., Leg.)
Myxococcus incrustans Zederbauer 1903, 474, q.v.

Catenulatae Jahn 1911, 205. (Sect. Sch.) (Val. Pub., Leg.)
Fourth section of Chondromyces Berkeley and Curtis; species C. catenulatus Thaxter.

Chondriosae Jahn 1911, 198. (Sect. Sch.) (Val. Pub., Leg.)
The second section of Myxococcus Thaxter; species - M. coralloides Thaxter, M. digitatus Quehl, M. clavatus Quehl, and M. cirrhosus Thaxter.

Chondrococcus Kützing 1847, 23. (Gen. Algae) (Val. Pub., Leg.)
not Chondrococcus Jahn 1924, 85.

Chondrococcus Jahn 1924, 85. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24d)
not Chondrococcus Kützing 1847, 23.
Dactylocoena Enderlein 1924, 6. Type sp. (sub. des.: Bergey et al. 1934, 614): Chondrococcus coralloides (Thaxter) Jahn 1924, 86. (Basionym: Myxococcus coralloides Thaxter 1892, 404).
Comment: See Introduction p. 32.

C. blasticus Beebe 1941a, 310. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
Source: Goat dung and soil from Ames, Iowa.

C. cerebriformis (Kofler) Jahn 1924, 86. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus cerebriformis Kofler 1913, 866.
not Myxococcus cerebriformis Finck 1950, 383.
Source: Hare dung.

C. cirrhosus (Thaxter) Jahn 1924, 88. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus cirrhosus Thaxter 1897, 409.
Dactylocoena cirrhosus (sic) (Thaxter) Enderlein 1925, 245.
Source: Grouse dung.

C. columnaris (Davis) Ordal and Rucker 1944, 18. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
Bacillus columnaris Davis 1923, 263.
Cytophaga columnaris (Davis) Garnjobst 1945, 127.
Source: Fish lesions.

C. coralloides (Thaxter) Jahn 1924, 86. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus coralloides Thaxter 1892, 404.
Datylocoena coralloides (Thaxter) Enderlein 1924, 6.
Myxococcus clavatus Quehl 1906, 18, pro parte (See Jahn 1924, 86.)

C. coralloides (continued)
Myxococcus digitatus Quehl 1906, 18, pro parte (See Jahn 1924, 86.)
Myxococcus polycystus Kofler 1913, 865, pro parte (See Jahn 1924, 86.)
Myxococcus exiguus Kofler 1913, 867, pro parte (See Jahn 1924, 86.)
Chondrococcus polycystus (Kofler) Krzemieniewska and Krzemieniewski 1926, 17.
Source: Decaying lichens, soil, dung of rabbits.

C. coralloides var. clavatus Jahn 1924, 87. (Var. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus clavatus Quehl 1906, 18.
Source: Soil and dung.

C. coralloides var. digitatus Jahn 1924, 87. (Var. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus digitatus Quehl 1906, 18.
Dactylocoena digitata (Quehl) Enderlein 1924, 6.
Source: Soil and dung.

Chondrococcus coralloides var. maximus Lievre 1927, 187. (Var. Sch.) (Val. Pub., Illeg.: Rule 26)
Source: Soil.

C. coralloides var. polycistus (sic) (Kofler) Jahn 1924, 85. (Var. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus polycystus Kofler 1913, 865.
Chondrococcus polycystus (Kofler) Krzemieniewska and Krzemieniewski 1926, 17.
Source: Rabbit dung.

C. cruentus (Thaxter) Krzemieniewska and Krzemieniewski 1927, 98. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus cruentus Thaxter 1897, 409.
Source: Cow dung.

C. macrosporus Krzemieniewska and Krzemieniewski 1926, 16. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
not Myxococcus macrosporus Zukal 1897b, 551.
Source: Soil and dung.

C. megalosporus Jahn 1924, 86. (Sp. Sch. (Val. Pub., Illeg.: Rule 26)
Dactylocoena megalosporus (Jahn) (sic) Enderlein 1924, 245.
Source: Deer dung.

C. polycystus (Kofler) Krzemieniewska and Krzemieniewski 1926, 17. (Sp. Sch.) (Val. Pub., Illeg.: Rule 26)
Myxococcus polycystus Kofler 1913, 865.
Chondrococcus coralloides var. polycistus (Kofler) (sic) (Jahn) 1924, 85.
Source: Dung.

Chondromyces Berkeley and Curtis in Berkeley 1857, Fig. 70a, 313 and Berkeley 1874, 64. (Gen. Sch.) (Val. Pub., Leg.)
Stigmatella Berkeley and Curtis in Berkeley 1857, Fig. 70b, 313 and Berkeley 1874, 97.
Cystodesmia Enderlein 1924, 4.
Polycephalum Kalchbrenner and Cooke 1880, 22. (See Thaxter 1897, 407)
Myxobotrys Zukal 1896, 346. (See Zukal 1897a, 17)
Type sp. (monotype): Chondromyces crocatus (Berkeley and Curtis) Berkeley 1857, Fig. 70a, 313, and Berkeley 1874, 64.

C. apiculatus Thaxter 1897, 405. (Sp. Sch.) (Val. Pub., Leg.)
Source: Antelope dung.

C. aurantiacus (Berkeley and Curtis) Thaxter 1892, 401. (Sp. Sch.) (Val. Pub., Leg.)
Stigmatella aurantiaca Berkeley and Curtis in Berkeley 1857, 313.
Stilbum rhytidosporum Berkeley and Broome 1873, 96. (See Thaxter 1892, 401 and 1897, 407.)

Chondromyces aurantiacus (continued)
Polycephalum aurantiacum Kalchbrenner and Cooke 1880, 23. (See Thaxter 1892, 401 and 1897, 407.)
Source: Decaying wood and fungi.

C. aurantiacus var. frutescens Krzemieniewska and Krzemieniewski 1927, 91. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces brunneus Krzemieniewska and Krzemieniewski 1946, 44.
Source: Soil, decayed matter.

C. brunneus Krzemieniewska and Krzemieniewski 1946, 44. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces aurantiacus var. frutescens Krzemieniewska and Krzemieniewski 1927, 91.
Source: Soil, decayed matter.

C. catenulatus Thaxter 1904, 410. (Sp. Sch.) (Val. Pub., Leg.)
Cystodesmia catenulata (Thaxter) Enderlein 1924, 4.
Source: Decaying poplar wood.

C. crocatus Berkeley and Curtis in Berkeley 1874, 64. (Sp. Sch.) (Val. Pub., Leg.)
Myxobotrys variabilis Zukal 1896, 340.
Type sp. of Chondromyces Berkeley and Curtiss.
Source: Decayed melon.

C. cylindricus Krzemieniewska and Krzemieniewski 1930, 266. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil, organic matter.

C. erectus (Schroeter) Thaxter 1897, 407. (Sp. Sch.) (Val. Pub., Leg.)
Cystobacter erectus Schroeter 1886, 170, q.v.
Source: Horse dung, lichens.

C. glomeratus Zederbauer 1903, 477. (Sp. Sch. and Fungus) (Val. Pub., Illeg.: Rule 24g)
Source: From beech stump.
Comment: A mixed culture of two components. A Hyphomycete and Bacillus chondromycetis gomerati Zederbauer 1903, 477.

Chondromyces (continued)
C. gracilipes Thaxter 1897, 406. (Sp. Sch.) (Val. Pub., Leg.)
Podangium gracilipes (Thaxter) Jahn 1924, 82.
Monocystia gracilipes (Thaxter) Enderlein 1924, 4.
Chondromyces minor Krzemieniewska and Krzemieniewski 1930, 265. (see Stanier 1957, 878.)
Source: Rabbit dung.

C. lanuginosus Kofler 1913, 861. (Sp. Sch.) (Val. Pub., Leg.)
Synangium lanuginosum (Kofler) Jahn 1924, 79.
Apelmocoena lanuginosa (Kofler) Enderlein 1925, 243.
Source: Dung, decaying wood.

C. lichenicolus Thaxter 1892, 402. (Sp. Sch.) (Val. Pub., Leg.)
Podangium lichenicolum (Thaxter) Jahn 1924, 81.
Apelmocoena lichenicola (Thaxter) Enderlein 1924, 4.
Monocystia lichenicola (Thaxter) Enderlein 1925, 243.
Source: Lichens.

C. medius Krzemieniewska and Krzemieniewski 1930, 263. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil. Fungus in Panama.

C. minor Krzemieniewska and Krzemieniewski 1930, 265. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces gracilipes Thaxter 1897, 406, q.v. (see Stanier 1957, 878.)
Source: Soil.

C. muscorum Thaxter 1904, 411. (Sp. Sch.) (Val. Pub., Leg.)
Stelangium muscorum (Thaxter) Jahn 1924, 72.
Apelmocoena muscorum (Thaxter) Enderlein 1924, 4.
Source: Liverworts on beech trees.

C. pedicellatus (sic) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24b)

C. pedicellatus (continued)
Either a correction or a misprint of Chondromyces pediculatus Thaxter 1904, 410.

C. pediculatus Thaxter 1904, 410. (Sp. Sch.) (Val. Pub., Leg.)
Source: Grouse dung.

C. pedunculatus (sic) Saccardo and Saccardo 1906, 218. (Sp. Sch.) (Val. Pub., Illeg.: Rule 27).
Chondromyces pediculatus Thaxter 1904, 410.
Source: Grouse dung.
Comment: Probably a lapsus calami.

C. sacchari Spegazzini 1896, 252. (Sp. Sch.) (Val. Pub., Leg.)
Source: Decaying vegetation.

C. serpens Quehl 1906, 16. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24b)
not Chondromyces serpens Thaxter 1892, 403.
Archangium gephyra Jahn 1924, 67, q.v.
Source: Deer dung, rabbit dung, hare dung, lichens.

C. serpens Thaxter 1892, 403. (Sp. Sch.) (Val. Pub., Leg.)
not Chondromyces serpens Quehl 1906, 16.
Archangium serpens (Thaxter) Jahn 1924, 72.
Ophiocystia serpens (Thaxter) Enderlein 1924, 4.
Source: Lichens.

C. sessilis Thaxter 1904, 411. (Sp. Sch.) (Val. Pub., Leg.)
Synangium sessile (Thaxter) Jahn 1924, 79, q.v.
Apelmocoena sessilis (Thaxter) Enderlein 1924, 4.
Source: Decaying wood, dung of herbivores, and soil.

C. thaxteri Faull 1916, 231. (Sp. (Sch.) (Val. Pub., Leg.)
Synangium thaxteri (Faull) Jahn 1924, 79.
Apelmocoena thaxteri (Faull) Enderlein 1925, 243.

Chondromyces thaxteri (continued)
Synangium sessile (Thaxter) Jahn 1924, 79, q.v.
Source: Deer dung.

CHONDROMYCIDAE (sic) Enderlein 1924, 1. (Fam. Sch.) (Val. Pub., Leg.)
Type gen.: Chondromyces Berkeley and Curtis in Berkeley 1857, 313.

CHONDROMYCINAE (sic) Enderlein 1925, 242. (Subfam. Sch.) (Val. Pub., Leg.)

Compositae Jahn 1911, 203. (Sect. Sch.) (Val. Pub., Leg.)
Fourth section of genus Polyangium Link.

Cystobacter Schroeter 1886, 170. (Gen. Sch.) (Val. Pub., Leg.)
Polyangium Link 1809, 42. (See Thaxter 1904, 414.)
Myxobacter Thaxter 1892, 403. (See Thaxter 1897, 398, 405 and 408 and Thaxter 1904, 414.)
Type sp. (subs. des.: Thaxter 1897, 405): Cystobacter fuscus Schroeter 1886, 170.

C. aureus (Thaxter) Thaxter 1897, 398. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium vitellinum Link 1809, 42.
Myxobacter aureus Thaxter 1892, 403.

C. erectus Schroeter 1886, 170. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces erectus (Schroeter) Thaxter 1897, 407.
Podangium erectum (Schroeter) Jahn 1924, 80.
Monocystia erecta (Schroeter) Enderlein 1925, 243.
Source: Horse dung and bank covered by lichens.

C. fuscus Schroeter 1886, 170. (Sp. (Sch.) (Val. Pub., Leg.)
Polyangium fuscum (Schroeter) Thaxter 1904, 414.

Cystobacter fuscus (continued)
Type sp. Cystobacter Schroeter 1886, 170. (see Thaxter 1897, 405).
Source: Dung, soils.

C. simplex (Thaxter) Thaxter 1897, 398. (Sp. Sch.) (Val. Pub., Leg.)
Myxobacter simplex Thaxter 1893, 129.
Polyangium simplex (Thaxter) Thaxter 1904, 414.
Source: Wood.

Cystodesmia Enderlein 1924, 4. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces Berkeley and Curtis 1857, 313, q.v.
Type sp. (orig. des.): Cystodesmia catenulata (Thaxter) Enderlein 1924, 4. (Basionym: Chondromyces catenulatus Thaxter 1904, 410.)

C. catenulata (Thaxter) Enderlein 1924, 4. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces catenulatus Thaxter 1904, 410.
Type sp.: Cystodesmia Enderlein 1924, 4.

Cystoecemia Enderlein 1924, 5. (Gen. Sch.) (Val. Pub., Leg.)
Sorangium Jahn 1925, 73.
Type sp.: Cystoecemia septata (Thaxter) Enderlein 1924, 5. (Basionym: Polyangium septatum Thaxter 1904, 412.)
Comment: see Introduction p. 32.

C. composita (Thaxter) Enderlein 1925, 244. (Sp. Sch.) (Val. Pub., Leg.)
Polyangium compositum Thaxter 1904, 413.
Sorangium compositum (Thaxter) Jahn 1924, 74, q.v.

C. schroeteri (Jahn) Enderlein 1925, 244. (Sp. Sch.) (Val. Pub., Leg.)
Sorangium schroeteri Jahn 1924, 73.
Source: Rabbit dung.

Cystoecemia septata (Thaxter) Enderlein 1924, 5. (Sp. Sch.) (Val. Pub., Leg.)
Polyangium septatum Thaxter 1904, 412.
Sorangium septatum (Thaxter) Jahn 1924, 75.
Type sp. of Cystoecemia Enderlein 1924, 5.
Source: Soil, dung.

C. sorediata (Thaxter) Enderlein 1925, 244. (Sp. Sch.) (Val. Pub., Leg.)
Polyangium sorediatum Thaxter 1904, 414.
Sorangium sorediatum (Thaxter) Jahn 1924, 75.

Cytophaga Winogradsky 1929, 577. (Gen. Sch.) (Val. Pub., Leg.)
Promyxobacterium Imshenetsky and Solntseva 1945, 224. (See Stanier 1947, 312.)
Flexibacter Soriano 1945a, 92. (In part) (see Stanier 1947, 312).
Flexoscilla Pringsheim 1951, 145. (see Stanier 1957, 858).
Type sp. (subs. des.: Bergey et al. 1930, 515): Cytophaga hutchinsonii Winogradsky 1929, 578.

C. albogilva Fuller and Norman 1943, 566. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

C. anularis Stapp and Bortels 1934, 56. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga hutchinsonii Winogradsky 1929, 578. (see Stanier 1942, 191.)
Source: Woods soil.

C. aurantiaca Winogradsky 1929, 597. (Sp. Sch.) (Val. Pub., Leg.)
Mycococcus cytophagus Bokor 1930, 1, in part. (see Stanier 1942, 192.)
Source: Soil.

C. columnaris (Davis) Garnjobst 1945, 127. (Sp. Sch.) (Val. Pub., Leg.)
Bacillus columnaris Davis 1922, 263.

C. columnaris (continued)
Chondrococcus columnaris (Davis) Ordal and Rucker 1944, 18.
Source: Fish lesions.

C. crocea Stapp and Bortels 1934, 60. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga hutchinsonii Winogradsky 1929, 578. (see Stanier 1942, 191).
Source: Damp woods, soil.

C. deprimata Fuller and Norman 1943, 566. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

C. diffluens Stanier 1940, 623. (Sp. Sch.) (Val. Pub., Leg.)
Source: Sea water.

C. ellipsospora Imshenetsky and Solntseva 1936, 1137. (Sp. Sch.) (Val. Pub., Leg.)
Sporocytophaga ellipsospora (Imshenetsky and Solntseva) Stanier 1942, 190.
Source: Soil.

C. fermentans Bachmann 1955, 549. (Sp. Sch.) (Val. Pub., Leg.)
Source: Marine mud.

C. flavicula Stapp and Bortels 1934, 62. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga hutchinsonii Winogradsky 1929, 578. (see Stanier 1942, 191).
Source: Damp woods, soil.

C. globulosa Stapp and Bortels 1934, 47. (Sp. Sch.) (Val. Pub., Leg.)
Sporocytophaga myxococcoides (Krzemieniewska) Stanier 1940, 630.
Source: Woods.

C. haloflava Kadota 1953, 478. (Sp. Sch.) (Val. Pub., Leg.)
Source: Fishing nets deteriorated during storage.

C. haloflava var. non reductans Kadota 1954, 127. (Var. Sch.) (Val. Pub., Leg.)
Source: Sea water.

C. hutchinsonii Imshenetsky and Solntseva 1936, 1129. (Sp. Sch.) (Val. Pub., Leg.)
not Cytophaga hutchinsonii Winogradsky 1929, 578.
Sporocytophaga myxococcoides (Krzemieniewska) Stanier 1940, 630. (See Stanier 1942, 189).
Source: Soil.

C. hutchinsonii Winogradsky 1929, 578. (Sp. Sch.) (Val. Pub., Leg.)
not Cytophaga hutchinsonii Imshenetsky and Solntseva 1936, 1129.
Cytophaga lutea Winogradsky 1929, 599. (see Stanier 1942, 191.)
Cytophaga sylvestris Stapp and Bortels 1934, 55. (See Stanier 1942, 191.)
Cytophaga anularis Stapp and Bortels 1934, 56. (See Stanier 1942, 191.)
Cytophaga flavicula Stapp and Bortels 1934, 62. (See Stanier 1942, 191.)
Cytophaga crocea Stapp and Bortels 1934, 60. (See Stanier 1942, 191.)
Cytophaga strain 8 Jensen 1940, 547. (See Beebe and Buchanan 1948, 1012).
Type sp. of Cytophaga Winogradsky 1929, 577.
Source: Soil.

C. johnsonae Stanier 1947, 306. (Sp. Sch.) (Val. Pub., Leg.)
Chitin-destroying myxobacters Johnson 1930, 340.
Cytophaga johnsonii (sic) Stanier 1957, 860.
Promyxobacterium johnsonii (sic) (Stanier) Krasil'nikov 1949, 721.
Source: Soil and mud.

C. johnsonii (sic) Stanier 1957, 860.
Orth. Var. C. johnsonae Stanier 1947, 306, q.v.

C. johnsonii var. denitrificans Stanier 1947, 307. (Var. Sch.) (Val. Pub., Leg.)

C. johnsonii var. denitrificans (con't.)
Promyxobacterium johnsonae var. denitrificans Krasil'nikov 1949, 721.
Source: Compost inoculated into an enrichment medium containing a strip of lobster chitin.

C. krzemieniewskae Stanier 1940, 623. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga krzemieniewskii (sic) Stanier 1940, 623.
Source: Sea water.

C. krzemieniewskii (sic) Stanier 1940, 623.
Orth. var. of C. krzemieniewskae Stanier 1940, 623.

C. lutea Winogradsky 1929, 599. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga hutchinsonii Winogradsky 1929, 578, q.v.
Source: Soil.

C. myxococcoides Krzemieniewska 1933, 400. (Sp. Sch.) (Val. Pub., Leg.)
Sporocytophaga myxococcoides (Krzemieniewska) Stanier 1940, 630, q.v.
Source: Soil.

C. psychrophila Borg 1948, 1. (Sp. (Sch.) (Not Val. Pub.: Rule 12a)

C. rosea Kadota 1954, 126. (Sp. Sch.) (Val. Pub., Leg.)

C. rubra Winogradsky 1929, 598. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

C. sensitiva Humm 1946, 64. (Sp. Sch.) (Val. Pub., Leg.)
Promyxobacterium sensitivum (Humm) Krasil'nikov 1949, 721.
Source: Algae (Dictyota dichotoma) and sea water.

C. strain 8 Jensen 1940, 547. (Sp. Sch.) (Val. Pub., Illeg.: Rule 25a)
Cytophaga hutchinsonii Winogradsky 1929, 578. (See Beebe and Buchanan 1948, 1012.)

C. succinicans Anderson and Ordal 1961, 130. (Sp. Sch.) (Val. Pub., Leg.)
Source: Migratory adult salmon in the Snake River (Idaho) and water from aquaria containing species of trout and salmon.

C. sylvestris Stapp and Bortels 1934, 55. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga hutchinsonii Winogradsky 1929, 578. (See Stanier 1942, 191.)
Source: Woods.

C. tenuissima Winogradsky 1929, 599. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga ternissima (sic) Bergey et al. 1934, 559.
Source: Soil.

C. ternissima (sic) Bergey et al. 1934, 559. (Lapsus calami)
Cytophaga tenuissima Winogradsky 1929, 599, q.v.

C. winogradskii Verona 1934, 732. (Sp. Sch.) (Val. Pub., Leg.)
Source: Developed on filter paper on a silica gel plate.

CYTOPHAGACEAE Stanier 1940, 630. (Fam. Sch.) (Val. Pub., Leg.)
Type gen. (monotype): Cytophaga Winogradsky 1929, 577.

Dactylocoena Enderlein 1924, 6. (Gen. Sch.) (Val. Pub., Leg.)
Chondrococcus Jahn 1924, 85.
Type sp. (orig. des.): Dactylocoena digitata (Quehl) Enderlein 1924, 6. (Basionym: Myxococcus digitatus Quehl 1906, 18). Later, Enderlein (1925, 245) recorded M. digitatus Quehl as a later synonym of Myxococcus coralloides Thaxter 1892, 404, which became the basionym and Dactylocoena coralloides (Thaxter) Enderlein 1925, 240 the type species.

D. cirrhosus (sic) (Thaxter) Enderlein 1925, 245. (Sp. Sch.) (Val. Pub., Leg.)

D. cirrhosus (continued)
Myxococcus cirrhosus Thaxter 1897, 409.
Chondrococcus cirrhosus Thaxter (Jahn) 1924, 86.
Source: Grouse dung.

D. coralloides (Thaxter) Enderlein 1924, 6. (Sp. Sch.) (Val. Pub., Leg.)
Myxococcus coralloides Thaxter 1892, 404.
Chondrococcus coralloides (Thaxter) Jahn 1924, 404, q.v.
Type sp.: Dactylocoena Enderlein 1924, 404.

D. digitata (Quehl) Enderlein 1924, 6. (Sp. Sch.) (Val. Pub., Leg.)
Myxococcus digitatus Quehl 1906, 18.
Chondrococcus coralloides var. digitatus (Quehl) Jahn 1924, 87.

D. megalosporus (sic) (Jahn) Enderlein 1925, 245. (Sp. Sch.) (Val. Pub., Leg.)
Chondrococcus megalosporus Jahn 1924, 86.
Source: Dung of deer.

Excelsae Jahn 1911, 205. (Sect. Sch.) (Val. Pub., Leg.)
Fifth section of Chondromyces Berkeley; species C. aurantiacus Berkeley and Curtis, C. crocatus (Berkeley and Curtis) Thaxter. C. pediculatus Thaxter and C. apiculatus Thaxter.

Flavescentes Jahn 1911, 202. (Sect. Sch.) (Val. Pub., Leg.)
Second section Polyangium Link; species P. simplex Thaxter, P. morula Jahn, and P. vitellinum Link.

Flexibacter Soriano 1945a, 92. (Gen. Sch.) (Val. Pub., Leg.)
Cytophaga Winogradsky 1929, 577. (See Stanier 1957, 858.)
Type sp. (orig. des.): Flexibacter flexilis Soriano 1945a, 92.

F. albuminosus Soriano 1945a, 93. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

Flexibacter aureus Soriano 1945a, 93. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

F. elegans Soriano 1945a, 93. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

F. flexilis Soriano 1945a, 92. (Sp. Sch.) (Val. Pub., Leg.)
Type sp.: Flexibacter Soriano 1945a, 92.
Source: Soil from Wisconsin, U.S.A.

F. giganteus Soriano 1945a, 93. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

FLEXIBACTERIACEAE (sic) Soriano 1945a, 92. (Fam. Sch.) (Val. Pub., Leg.)
Type gen. (monotype): Flexibacter Soriano 1945a, 92.

FLEXIBACTERIALES (sic) Soriano 1945a, 92. (Ord. Sch.) (Val. Pub., Leg.)
Type fam. (monotype): Flexibacteriaceae Soriano 1945, 92.

Flexoscilla Pringsheim 1951, 145. (Gen. Sch.) (Val. Pub., Leg.)
Cytophaga Winogradsky 1929, 578. (See Stanier 1957, 858).
Type sp. (monotype): Flexoscilla mucronata Pringsheim 1951, 145.

F. mucronata Pringsheim 1951, 145. (Sp. Sch.) (Val. Pub., Leg.)
Source: A jar containing decaying algae.
Comment: Type sp. Flexoscilla Pringsheim 1951, 145.

Fuscae Jahn 1911, 201. (Sect. Sch.) (Val. Pub., Leg.)
First section of Polyangium Link; species P. primigenium Quehl and P. fuscum (Schroeter) Thaxter.

Haploangium Peterson 1959a, 2. (Gen. Sch.) (Val. Pub., Leg.)
Type sp. (orig. des.): Haploangium simplex (Thaxter) Peterson 1959a, 2. (Basionym: Myxobacter simplex Thaxter 1893, 29.)

H. minor Peterson 1959a, 4. (Sp. Sch.) (Val. Pub., Leg.)
Source: Bark of living trees.

H. ochraceum (Krzemieniewska and Krzemieniewski) Peterson 1959a, 3. (Sp. Sch.) (Val. Pub., Leg.)
Polyangium ochraceum Krzemieniewska and Krzemieniewski 1926, 34.
Source: Living trees (Bark of).

H. rugisepticum Peterson 1959a, 5. (Sp. Sch.) (Val. Pub., Leg.)
Source: The bark of living trees.

H. simplex (Thaxter) Peterson 1959a, 2. (Sp. Sch.) (Val. Pub., Leg.)
Myxobacter simplex Thaxter 1893, 29.
Polyangium simplex Thaxter 1904, 414.
Type sp. Haploangium Peterson 1959a, 2.
Source: The bark of living trees.

Involutae Jahn 1911, 200. (Sect. Sch.) (Val. Pub., Leg.)
The fourth section of Myxococcus Thaxter; species M. cruentus Thaxter.

Melittangium Jahn 1924, 78. (Gen. Sch.) (Val. Pub., Leg.)
Type sp. (monotype): Melittangium boletus Jahn 1924, 78.

M. boletus Jahn 1924, 78. (Sp. Sch.) (Val. Pub., Leg.)
Podangium boletus (Jahn) Krzemieniewska and Krzemieniewski 1946, 36.
Type sp. Melittangium Jahn 1924, 78.
Source: Deer and rabbit dung.

Micrococcus cytophagus Merker 1911, 589. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24g)
Sporocytophaga myxococcoides (Krzemieniewska and Krzemieniewski) Stanier 1940, 630, q.v. (see Stanier 1942, 189).
Source: Soil.

Micrococcus fulvus Cohn 1875, 181. (Sp. Sch.) (Val. Pub., Leg.)
not Micrococcus fulvus Weiss 1902, 206.
Myxococcus fulvus (Cohn) Jahn 1911, 198, q.v. (see Jahn 1924, 84.)
Source: Dung of herbivores.

Monocystia Enderlein 1924, 4. (Gen. Sch.) (Val. Pub., Leg.)
Podangium Jahn 1924, 80.
Type sp. (orig. des.): Monocystia gracilipes (Thaxter) Enderlein 1924, 4. (Basionym: Chondromyces gracilipes Thaxter 1897, 406.)
Comment: see Introduction p. 32.

M. erecta (Schroeter) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Leg.)
Cystobacter erectus Schroeter 1886, 170.
Chondromyces erectus (Schroeter) Thaxter 1897, 407.
Podangium erectum (Schroeter) Jahn 1924, 80.

M. gracilipes (Thaxter) Enderlein 1924, 4. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces gracilipes Thaxter 1897, 406.
Podangium gracilipes (Thaxter) Jahn 1924, 82, q.v.
Type sp. Monocystia Enderlein 1924, 4.
Source: Rabbit and goat dung.

M. lichenicola (Thaxter) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces lichenicola Thaxter 1892, 402.
Podangium lichenicolum (Thaxter) Jahn 1924, 81.
Apelmocoena lichenicola (Thaxter) Enderlein 1924, 4.
Source: Lichens.

Mycococcus Bokor 1930, 22. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24g)
not Mycococcus Krasil'nikov 1938b, 335.

Mycococcus (continued)
Type sp. (monotype): Mycococcus cytophagus (Hutchinson and Clayton) Bokor 1930, 1. (Basionym: Spirochaeta cytophaga Hutchinson and Clayton 1919, 150.)
Comment: Described from mixed culture (see Stanier 1940, 620-621).

M. cytophagus Bokor 1930, 1. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24g)
Cytophaga aurantiaca Winogradsky 1929, 597. (see Stanier 1942, 192.)
Type sp. of genus Mycococcus Bokor 1930, 22.
Source: Soil.

Myxobacter Thaxter 1892, 403. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium Link 1809, 42. (see Thaxter 1904, 414 and Zukal 1897b 550 and 551.)
Cystobacter Schroeter 1886, 170. (see Thaxter 1897, 398 and 405, and Thaxter 1904, 414.)
Type sp. (monotype): Myxobacter aureus Thaxter 1892, 403.

M. aureus Thaxter 1892, 403. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium vitellinum Link 1809, 42.
Type sp. Myxobacter Thaxter 1892, 403.
Source: Wet wood and bark.

M. simplex Thaxter 1893, 29. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Cystobacter simplex (Thaxter) Thaxter 1897, 398.
Polyangium simplex (Thaxter) Thaxter 1904, 414.
Haploangium simplex (Thaxter) Peterson 1959a, 2.
Source: Wet wood and swamp.

MYXOBACTERALES Thaxter 1892, 394. (Ord. Sch.) (Val. Pub., Leg.)
Myxobacteriaceae (sic) Thaxter 1892, 394.
Comment: The spelling of the name of an order should end in -ales. The correction to Myxobacterales was made by Stanier 1957, 854, and is without prejudice to name of author and date of publication.

MYXOBACTERIA Janke 1924, 75. (Ord. Sch.) (Val. Pub., Illeg.: Rule 24a)
Myxobacterales Thaxter 1892, 394, q.v.
Type fam. (monotype): Myxobacteriaceae Thaxter 1892, 394.

MYXOBACTERIACEAE (sic) Thaxter 1892, 394. (Ord. Sch.) (Val. Pub., Leg.)
Myxobacterales Thaxter 1892, 394.
Comment: The name was proposed as that of an order. The ending is that of a family. This may be corrected to conform to the rules of the Bacteriological Code to Myxobacterales Thaxter 1892 without prejudice to the author and date of publication. The correction of spelling to Myxobacterales was made by Stanier 1957, 854. The stem of the generic name on which the ordinal name is based is Myxobacter - not Myxobacteri - (Opinion 3).

MYXOBACTERIACEAE (sic) Clements 1909, 8. (Fam. Sch. (Val. Pub., Leg.)
Comment: The stem of the generic name on which Myxobacteriaceae Clements 1909, 8 is based is Myxobacter- not Myxobacteri-, and may be corrected to Myxobacteraceae. No reference with the correct spelling has been found.

MYXOBACTERIAE Stanier and van Niel 1941, 459. (Class Sch.) (Val. Pub., Illeg.: Rule 24d)
Myxobacterieae Heller 1921, 549.
Type ord. (monotype): Myxobacteriales (sic) Jahn 1911, 187.

MYXOBACTERIALES (sic) Jahn 1911, 187. (Ord. Sch.) (Val. Pub., Illeg.: Rule 24d)
Myxobacterales Thaxter 1892, 394, q.v.
Comment: The stem of the generic name on which Myxobacteriales Jahn is based is Myxobacter-, not Myxobacteri- (Opinion 3).

MYXOBACTERIALES Tchan, Pochon and Prévot 1948, 398. (Class Sch.) (Val. Pub., Illeg.: Rule 24d)
Comment: These authors used the ordinal ending, not that of a class. The stem of the generic name on which Myxobacteriales is based is Myxobacter-, not Myxobacteri-.

MYXOBACTERIEAE Heller 1921, 549 (Class Sch.) (Val. Pub., Leg.)

MYXOBACTRALES (sic) Clements 1909, 8. (Ord. Sch.) (Val. Pub., Illeg.: Rule 24d)
Myxobacterales Thaxter 1892, 394, q.v.
Comment: The stem of the generic name on which Myxobactrales Clements is based is Myxobacter-, not Myxobactr- (Opinion 3).

Myxobotrys Zukal 1896, 346. (Gen. Myxomycetes) (Val. Pub., Illeg.: Rule 24a)
Chondromyces Berkeley and Curtis in Berkeley 1857, 313, q.v. (see Zukal 1897a, 17).
Type sp. (monotype): Myxobotrys variabilis Zukal 1896, 346.

M. variabilis Zukal 1896, 346. (Sp. Myxomycetes) (Val. Pub., Illeg.: Rule 24a)
Chondromyces crocatus (Berkeley and Curtis) Thaxter 1892, 401 (See Thaxter 1897, 396; see Zukal 1897a, 17.)
Type sp. Myxobotrys Zukal 1896, 346.

MYXOBOTRYSACEAE Zukal 1896, 346. (Ord. Myxomycetes) (Val. Pub., Illeg.: Rule 24a)
Type gen.: Myxobotrys Zukal 1896, 394.

MYXOCOCCACEAE Jahn 1924, 83. (Fam. Sch.) (Val. Pub., Leg.)
Type gen.: Myxococcus Thaxter 1892, 403.

MYXOCOCCALES Tchan, Pochon and Prévot 1948, 398. (Ord. Sch.) (Val. Pub., Leg.)
Type fam.: Myxococcaceae Jahn 1924, 83.

MYXOCOCCINAE (sic) Enderlein 1925, 242. (Subfam. Sch.) (Val. Pub., Leg.)

Myxococcus Thaxter 1892, 403. (Gen. Sch.) (Val. Pub., Leg.)
Type sp. (subs. des.: Buchanan 1934, 611): Myxococcus fulvus (Cohn) Jahn 1911, 198. (Basionym: Micrococcus fulvus Cohn 1875, 181).
Comment: Rule 9c(1) requires that the type species of a genus must be one of the species included when the name of the genus was originally validly published. Buchanan 1916, 542 designated M. rubescens Thaxter, one of the species originally included by Thaxter in the genus, as the type. Earlier Jahn 1911, 198 had transferred Micrococcus fulvus Cohn to the genus Myxococcus as Myxococcus fulvus (Cohn) Jahn. He reduced Myxococcus rubescens Thaxter to synonomy with Myxococcus fulvus (Cohn) Jahn. Buchanan 1934, 611 accepted Jahn's synonomy and recognized Myxococcus fulvus (Cohn) Jahn as the name of the type species.

M. albus Finck 1951, 382. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

M. brevipes Finck 1951, 384. (Sp. Sch.) (Val. Pub., Leg.)
Source: Dung of herbivores.

M. cerebriformis Finck 1951, 383. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24d)
not Myxococcus cerebriformis Kofler 1913, 866.
Source: Soil.

M. cerebriformis Kofler 1913, 866. (Sp. Sch.) (Val. Pub., Leg.)
not Myxococcus cerebriformis Finck 1951, 383.
Chondrococcus cerebriformis (Kofler) Jahn 1924, 86.
Source: Dung.

M. cirrhosus Thaxter 1897, 409. (Sp. Sch.) (Val. Pub., Leg.)
Chondrococcus cirrhosus (Thaxter) Jahn 1924, 88.
Source: Grouse dung.

M. cirrosus (sic) Saccardo and Sydow 1899, 843. (Sp. Sch.) (Val. Pub., Illeg.: Rule 27)
Myxococcus cirrhosus Thaxter 1897, 409.
Chondrococcus cirrhosus (Thaxter) Jahn 1924, 88.
Source: Dung of animals.
Comment: Probably a lapsus calami.

M. clavatus Quehl 1906, 18. (Sp. Sch.) (Val. Pub., Leg.)
Chondrococcus coralloides var. clavatus Jahn 1924, 86.
Source: Dung and soil.

M. coralloides Thaxter 1892, 404. (Sp. Sch.) (Val. Pub., Leg.)
Chondrococcus coralloides (Thaxter) Jahn 1924, 86, q.v.
Source: Rabbit dung. Lichens.

M. cruentus Thaxter 1904, 409. (Sp. Sch.) (Val. Pub., Leg.)
Chondrococcus cruentus (Thaxter) Krzemieniewska and Krzemieniewski 1927, 98.
Source: Cow dung.

M. digitatus Quehl 1906, 18. (Sp. Sch.) (Val. Pub., Leg.)
not Myxococcus digitatus Kühlwein 1950, 681.
Chondrococcus coralloides var. digitatus Jahn 1924, 87.
Dactylocoena digitata (Quehl) Enderlein 1924, 6.
Source: Soil and dung.

M. digitatus Kühwein 1950, 681. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24d)
not Myxococcus digitatus Quehl 1906, 18.
Source: Fallow deer dung.

M. disciformis Thaxter 1904, 412. (Sp. Sch.) (Val. Pub., Leg.)
Angiococcus disciformis (Thaxter) Jahn 1924, 89.
Source: Dung of muskrats and deer.

M. exiguus Kofler 1913, 867. (Sp. Sch.) (Val. Pub., Leg.)
Chondrococcus coralloides (Thaxter) Jahn 1924, 86, q.v.
Source: Rabbit dung.

M. fulvus (Cohn) Jahn 1911, 198. (Sp. Sch.) (Val. Pub., Leg.)
Micrococcus fulvus Cohn 1875, 181.
Myxococcus rubescens Thaxter 1892, 403. (see Jahn 1911, 198).
Myxococcus pyriformis A. L. Smith 1901, 71. (see Jahn 1911, 198).
Myxococcus ruber Baur 1905, 95. (see Jahn 1911, 198).
Myxococcus javanensis de Kruyff 1908, 385. (see Jahn 1911, 198).
Rhodococcus fulvus (Cohn) Winslow 1908, 262. (see Beebe and Buchanan 1948, 1041).
Type sp. Myxococcus Thaxter 1892, 403.

M. fulvus var. albus Jahn 1924, 85. (Var. Sch.) (Val. Pub., Leg.)
Myxococcus rubescens var. albus Kühlwein 1950, 681. (Probably a lapsus calami.)
Source: Decaying lichens, damp woods.

M. fulvus var. miniatus Jahn 1924, 85. (Var. Sch.) (Val. Pub., Leg.)

M. hutchinsonii Imshenetsky and Solntseva 1940, 789. (Sp. Sch.) (Val. Pub., Leg.)
Sporocytophaga myxococcoides (Krzemieniewska) Stanier 1940, 630, q.v.

M. incrustans Zederbauer 1903, 474. (Sp. Sch. and Fungus) (Val. Pub., Illeg.: Rule 24g)
Source: Damp sponge.
Comment: A mixed culture of two components. "Diesebeide komponenten sind das Bacterium myxococci incrustantis n. sp. und der Hyphomycet Torula myxococci incrustantis n. sp." Zederbauer 1903, 474.

M. javanensis de Kruyff 1908, 386. (Sp. Sch.) (Val. Pub., Leg.)
Myxococcus fulvus (Cohn) Jahn 1911, 198, q.v. (see Jahn 1924, 84).
Source: Lichens, paper, dung, etc.

M. lacteus Peterson 1958, 631. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces lacteus, specimen so labelled by Thaxter, now in Farlow Herbarium, Harvard University. The name is illegitimate (Rule 12b).
Source: Bark.

M. macrosporus Zukal 1897b, 551. (Sp. Sch.) (Val. Pub., Leg.)

M. megalosporus (Jahn) Kühlwein 1950, 681. (Sp. Sch.) (Val. Pub., Leg.)
Chondrococcus megalosporus Jahn 1924, 86.
Source: Dung.

M. ovalisporus Krzemieniewska and Krzemieniewski 1926, 15. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil from Poland.

M. pelomyxae Keller 1949, 296. (Sp. Sch.) (Val. Pub., Leg.)
Source: The cytoplasm of the rhizopod Pelomyxa palustris Greeff.

M. polycystus Kofler 1913, 865. (Sp. (Sch.) (Val. Pub., Leg.)
Chondrococcus coralloides var. polycistus (sic) Jahn 1924, 85.
Chondrococcus polycystus (Kofler) Krzemieniewska and Krzemieniewski 1926, 17.

M. pyriformis A. L. Smith 1901, 71. (Sp. Sch.) (Val. Pub.)
Myxococcus fulvus (Cohn) Jahn 1911, 198. (see Jahn 1924, 84.)
Source: Rabbit dung.

M. ruber Baur 1905, 95. (Sp. Sch.) (Val. Pub., Leg.)
Myxococcus fulvus (Cohn) Jahn 1911, 198, q.v. (see Jahn 1924, 84).
Source: Lichens, paper, dung, etc.

M. rubescens Thaxter 1892, 403. (Sp. Sch.) (Val. Pub., Leg.)
Micrococcus fulvus Cohn 1875, 181.
Myxococcus fulvus Jahn 1911, 198, q.v.
Source: Horse dung, paper, lichens, etc.

M. rubescens var. albus Kühlwein 1950, 681. (Var. Sch.) (Not Val. Pub.: Rule 12c)
Myxococcus fulvus var. albus Jahn 1924, 85.
Source: Decaying lichens, wood, mouse dung.
Comment: Probably a lapsus calami.

M. stipitatus Thaxter 1897, 408. (Sp. Sch.) (Val. Pub., Leg.)
Source: Dung of sheep, pig, and other animals.

M. viperus Finck 1951, 383. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil from Germany.

M. virescens Thaxter 1892, 404. (Sp. Sch.) (Val. Pub., Leg.)
Source: Hen and dog dung.

M. xanthus Beebe 1941b, 195. (Sp. (Sch.) (Val. Pub., Leg.)
Source: Dried cow dung.

Ophiocystia Enderlein 1924, 4. (Gen. Sch.) (Val. Pub., Leg.)
Archangium Jahn 1924, 66.
Type sp. (orig. des.): Ophiocystia serpens (Thaxter) Enderlein 1924, 4. (Basionym: Chondromyces serpens Thaxter 1892, 403.)
Comment: see Introduction p. 32.

O. flava (Kofler) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Leg.)
Polyangium flavum Kofler 1913, 864.
Archangium flavum (Kofler) Jahn 1924, 71.
Source: Hare dung.

O. gephyra (Jahn) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Leg.)
Archangium gephyra Jahn 1924, 67, q.v.
Source: Deer and rabbit dung

O. primigenium (Quehl) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Leg.)
Polyangium primigenium Quehl 1906, 16.
Archangium primigenium (Quehl) Jahn 1924, 69.

O. serpens (Thaxter) Enderlein 1924, 4. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces serpens Thaxter 1892, 403.
Archangium serpens (Thaxter) Jahn 1924, 72.
Type sp. Ophiocystia Enderlein 1924, 4.

O. thaxteri (Jahn) Enderlein 1925, 243. (Sp. Sch.) (Val. Pub., Leg.)
Archangium thaxteri Jahn 1924, 71.
Source: Rabbit dung.

POLYANGIACEAE Jahn 1924, 75. (Fam. Sch.) (Val. Pub., Leg.)
Type gen.: Polyangium Link 1809, 42.

POLYANGIALES Buchanan 1934, 587 (Ord. Sch.) (Val. Pub., Illeg.: Rule 24a)
Myxobacterales Thaxter 1892, 394.

POLYANGIDAE Jahn 1924, 65. (Class Sch.) (Val. Pub., Leg.)

Polyangium Link 1809, 42. (Gen. Sch.) (Val. Pub., Leg.)
Cystobacter Schroeter 1886, 70. (see Thaxter 1904, 414.)
Myxobacter Thaxter 1892, 403. (see Thaxter 1897, 398 and 405 and Thaxter 1904, 414.)
Type sp. (monotype): Polyangium vitellinum Link 1809, 42.

Polyangium aureum Krzemieniewska and Krzemieniewski 1930, 255. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

P. cellulosae (Imshenetsky and Solntseva) Mishustin 1938, 437 and 443. (Sp. Sch.) (Val. Pub., Leg.)
Polyangium cellulosum Imshenetsky and Solntseva 1936, 1115.
Comment: Probably a lapsus calami.

P. cellulosum Imshenetsky and Solntseva 1936, 1115. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

P. cellulosae var. ferrugineum Mishustin 1938, 433. (Var. Sch.) (Val. Pub., Leg.)
Source: The black soils of Eastern European Russia.

P. cellulosae var. fulvum Mishustin 1938, 437. (Var. Sch.) (Val. Pub., Leg.)
Source: Podzol soils of Timiriazev Agricultural Academy.

P. cellulosae var. fuscum Mishustin 1938, 435. (Var. Sch.) (Val. Pub., Leg.)
Source: Podzol soils; black soils of Sumy Experiment Station

P. cellulosae var. luteum Mishustin 1938, 438. (Var. Sch.) (Val. Pub., Leg.)
Source: Soils of the Timiriazev Agricultural Academy.

P. compositum Thaxter 1904, 413. (Sp. Sch.) (Val. Pub., Leg.)
Sorangium compositum (Thaxter) Jahn 1924, 74.
Polyangium sorediatum Ouehl 1906, 17. (see Jahn 1924, 74.)
Cystoecemia composita (Thaxter) Enderlein 1925, 244.
Source: Rabbit dung.

P. ferrugineum Krzemieniewska and Krzemieniewski 1927, 89. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

P. flavum Kofler 1913, 864. (Sp. Sch.) (Val. Pub., Leg.)
Archangium flavum (Kofler) Jahn 1924, 71, q.v.
Source: Hare dung.

P. fumosum Krzemieniewska and Krzemieniewski 1930, 253. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

P. fuscum (Schroeter) Thaxter 1904, 414. (Sp. Sch.) (Val. Pub., Leg.)
Cystobacter fuscus Schroeter 1886, 170.
Source: Rabbit dung, decaying lichens and poplar bark which is kept moist.

P. fuscum (Schroeter) Zukal 1897b, 550. (Sp. Sch.) (Not Val. Pub.: Rule 12c)
Comment: Baur 1905, 101 cited Zukal 1897b,550 as the authority for Polyangium fuscum. Examination fails to show such use.

P. fuscum var. velatum Krzemieniewska and Krzemieniewski 1926, 31. (Var. Sch.) (Val. Pub., Leg.)
Source: Soil.

P. indivisum Krzemieniewska and Krzemieniewski 1927. 90. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soils in Poland.

P. luteum Krzemieniewska and Krzemieniewski 1927, 90. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil on rabbit dung.

P. minus Krzemieniewska and Krzemieniewski 1926, 33. (Sp. Sch.) (Val. Pub., Leg.)
Source: Rabbit dung which was sterilized and placed on soil.

P. morula Jahn 1911, 202. (Sp. Sch.) (Val. Pub., Leg.)
Source: Rabbit dung.

P. ochraceum Krzemieniewska and Krzemieniewski 1926, 34. (Sp. Sch.) (Val. Pub., Leg.)

Polyangium ochraceum (continued)
Haploangium ochraceum (Krzemieniewska and Krzemieniewski) Peterson 1959a, 3.
Source: Sterilized rabbit dung on soil (Poland).

P. parasiticum Geitler 1924, 69. (Sp. Sch.) (Val. Pub., Leg.)
Source: Parasitic on algae.

P. primigenium Quehl 1906, 16. (Sp. Sch.) (Val. Pub., Leg.)
Archangium primigenium (Quehl) Jahn 1924, 69.
Ophiocystis primigenium (Quehl) Enderlein 1924, 243.
Source: Rabbit dung.

P. septatum Thaxter 1904, 412. (Sp. Sch.) (Val. Pub., Leg.)
Sorangium septatum (Thaxter) Jahn 1924, 75.
Cystoecemia septata (Thaxter) Enderlein 1924, 5.
Source: Horse dung.

P. simplex (Thaxter) Thaxter 1904, 414. (Sp. Sch.) (Val. Pub., Leg.)
Myxobacter simplex Thaxter 1893, 29.
Cystobacter simplex (Thaxter) Thaxter 1897, 398.
Haploangium simplex (Thaxter) Peterson 1959a, 2.
Source: Wet bank and wood, in swamps.

P. sorediatum Quehl 1906, 17. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24d)
not Polyangium sorediatum Thaxter 1904, 414.
Polyangium compositum Thaxter 1904, 413. (see Jahn 1924, 74.)
Sorangium compositum (Thaxter) Jahn 1924, 74. (see Jahn 1924, 74.)
Source: Rabbit dung.

P. sorediatum Thaxter 1904, 414. (Sp. Sch.) (Val. Pub., Leg.)
not Polyangium sorediatum Quehl 1906, 17.
Sorangium sorediatum (Thaxter) Jahn 1924, 75.

P. sorediatum (continued)
Cystoecemia sorediata (Thaxter) Enderlein 1925, 244.
Source: Rabbit dung.

Polyangium sp. Solberg 1927, 555. (Sp. Sch.) (Not Val. Pub.: Rule 12)
Source: Roots of Aster sinensis and Lathgrus odoratus.

P. spumosum Krzemieniewska and Krzemieniewski 1930, 254. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

P. stellatum Kofler 1913, 863. (Sp. Sch.) (Val. Pub., Leg.)
Source: Hare dung.

P. vitellinum Link 1809, 42. (Sp. Sch.) (Val. Pub., Leg.)
Myxobacter aureus Thaxter 1892, 403.
Cystobacter aureus (Thaxter) Thaxter 1897, 398.
Type sp. Polyangium Link 1809, 42.
Source: Very wet wood and bank in swamp, and rabbit dung.

Podangium Jahn 1924, 80. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24a)
Monocystia Enderlein 1924, 4.
Melittangium Jahn 1924, 78 (see Krzemieniewska and Krzemieniewski 1946, 36).
Type sp. (subs. des.: Buchanan 1934, 606): Polangium erectum (Schroeter) Jahn 1924, 80. (Basionym: Cystobacter erectus Schroeter 1886, 170.)
Comment: see Introduction p. 32.

P. alboracemum Peterson 1959b, 167. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: The bark of living trees.

P. boletus (Jahn) Krzemieniewska and Krzemieniewski 1946, 36. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Melittangium boletus Jahn 1924, 78.

P. cylindricum Peterson 1959b, 166. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: The bark of living trees.

Podangium erectum (Schroeter) Jahn 1924, 80. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Cystobacter erectus Schroeter 1886, 170.
Chondromyces erectus (Schroeter) Thaxter 1897, 407.
Monocystia erecta (Schroeter) Enderlein 1925, 243.
Type sp. Podangium Jahn 1924, 80.
Source: Horse dung in laboratory cultures and bark covered with lichens.

P. gracilipes (Thaxter) Jahn 1924, 82. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces gracilipes Thaxter 1897, 406.
Monocystia gracilipes (Thaxter) Enderlein 1924, 4.
Chondromyces minor Krzemieniewski and Krzemieniewska 1930, 265. (see Stanier 1857, 878).
Source: Rabbit dung.

P. lichenicolum (Thaxter) Jahn 1924, 81. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces lichenicolus Thaxter 1892, 402.
Apelmocoena lichenicola (Thaxter) Enderlein 1924, 4.
Monocystia lichenicola (Thaxter) Enderlein 1925, 243.
Source: Lichens.

Polycephalum Kalchbrenner and Cooke 1880, 22. (Gen. Fungi) (Val. Pub., Leg.)
Chondromyces Berkeley and Curtis 1857, 313. (see Thaxter 1897, 407.)
Type sp. (monotype): Polycephalum aurantiacum Kalchbrenner and Cooke 1880, 23.

P. aurantiacum Kalchbrenner and Cooke 1880, 23. (Sp. Fungi) (Val. Pub., Leg.)
Chondromyces aurantiacum (Berkeley and Curtis) Thaxter 1892, 401. (see Thaxter 1897, 407).

Polycephalum aurantiacum (con't.)
Type sp. Polycephalum Kalchbrenner and Cooke 1880, 22.
Source: Rotten wood.

PROMYXOBACTERIACEAE Imshenetsky and Solntseva 1945, 226. (Fam. Sch.) (Val. Pub., Leg.)
Type gen.: Promyxobacterium Imshenetsky and Solntseva 1945, 224.

Promyxobacterium Imshenetsky and Solntseva 1945, 224. (Gen. Sch.) (Val. Pub., Leg.)
Cytophaga Winogradsky 1929, 577. (see Stanier 1947, 312.)
Type sp.: Non designated.

P. flavum Imshenetsky and Solntseva 1945, 224. (Sp. Sch.) (Val. Pub., Leg.)
Source: Laboratory media. Soil.

P. johnsonii (sic) (Stanier) Krasil'nikov 1949, 720. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga johnsonii (sic) Stanier 1947, 306.

P. johnsonii (sic) var. denitrificans (Stanier) Krasil'nikov 1949, 721. (Var. Sch.) (Val. Pub., Leg.)
Cytophaga johnsonae var. denitrificans Stanier 1947, 307.

P. lanceolatus Imshenetsky and Solntseva 1945, 225. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

P. sensitivum (Humm) Krasil'nikov 1949, 721. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga sensitiva Humm 1946, 64.

Rhodococcus Zopf 1891, 28. (Gen. Sch.) (Val. Pub., Leg.)
not Rhodococcus Molisch 1907,
not Rhodococcus Winslow and Rogers 1906, 545.
not Rhodococcus Flügge in Winslow, Broadhurst, Buchanan, Krumweide, Rogers and Smith 1917, 560.

Rhodococcus (continued)
Type sp. (subs. des.: Winslow, Broadhurst, Buchanan, Krumweide, Rogers and Smith 1920, 208): Rhodococcus rhodochrous Zopf 1891, 28.

R. fulvus (Cohn) Winslow and Rogers 1906, 545. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24d)
Micrococcus fulvus Cohn
Myxococcus fulvus (Cohn) Jahn 1911.

Serpentes Jahn 1911, 204. (Sect. Sch.) (Val. Pub., Leg.)
Comment: First section of genus Chondromyces Berkeley and Curtis; species C. serpens Thaxter.

Simplices Jahn 1911, 198. (Sect. Sch.) (Val. Pub., Leg.)
Comment: The first section of genus Myxococcus Thaxter, species: M. fulvus (Cohn) Jahn, and M. virescens Thaxter.

Solitariae Jahn 1911, 205. (Sect. Sch.) (Val. Pub., Leg.)
Comment: Third section genus Chondromyces Berkeley and Curtis; species C. muscorum Thaxter and C. gracilipes Thaxter.

SORANGIACEAE Jahn 1924, 73. (Fam. Sch.) (Val. Pub., Leg.)
Type gen.: Sorangium Jahn 1924, 73.

Sorangium Jahn 1924, 73. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24a)
Cystoecemia Enderlein 1924, 5.
Type sp. (subs. des.: Bergey et al. 1934, 596): Sorangium schroeteri Jahn 1924, 73.
Comment: see Introduction p. 32.

S. aurantiacum Peterson 1958, 628. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Rat dung.

Sorangium aurantiacum (continued)
Comment: Polyangium aurantiacum, a specimen now in the Farlow Herbarium so labelled by Thaxter. The name is illegitimate (Rule 12b).

S. cellulosum Imshenetsky and Solntseva 1937, 7. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Soil, peat.

S. compositum (Thaxter) Jahn 1924, 74. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium compositum Thaxter 1904, 413.
Cystoecemia composita Enderlein 1925, 244.
Polyangium sorediatum Quehl 1906, 17. (see Jahn 1924, 74).
Source: Rabbit dung.

S. compositum var. Nr. 474 Krzemieniewska and Krzemieniewski 1926, 27. (Var. Sch.) (Val. Pub., Illeg.: Rule 25h)
Source: Soil.

S. nigrescens Krzemieniewska and Krzemieniewski 1937, 21. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Sandy soil in pine woods in Poland.

S. nigrum Krzemieniewska and Krzemieniewski 1937, 22. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Garden soil.

S. schroeteri Jahn 1924, 73. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Cystoecemia schroeteri (Jahn) Enderlein 1925, 244.
Type sp. Sorangium Jahn 1924, 73.
Source: Rabbit dung.

S. septatum (Thaxter) Jahn 1924, 75. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium septatum Thaxter 1904, 412.
Cystoecemia septata (Thaxter) Enderlein 1924, 5.
Source: Horse dung.

S. septatum var. microcystum Krzemieniewska and Krzemieniewski 1927, 84. (Var. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Soil.

S. sorediatum (Thaxter) Jahn 1924, 75. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Polyangium sorediatum Thaxter 1904, 414.
Cystoecemia sorediata (Thaxter) Enderlein 1925, 244.
Source: Rabbit dung.

S. sorediatum var. macrocystum Krzemieniewska and Krzemieniewski 1927, 87. (Var. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Soil.

S. spumosum Krzemieniewska and Krzemieniewski 1927, 88. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Soil and rabbit dung.

S. symbioticum Imshenetsky 1945, 189. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Source: Silica gel.

Sorediatae Jahn 1911, 203. (Sect. Sch.) (Val. Pub., Leg.)
Third section Polyangium Link; species P. compositum Thaxter, P. septatum Thaxter.

Spirochaeta cytophaga Hutchinson and Clayton 1919, 143. (Sp. Sch.) (Val. Pub., Leg.)
Sporocytophaga myxococcoides (Krzemieniewska) Stanier 1940, 630, q.v.
Source: Soil.

Sporocytophaga Stanier 1940, 629. (Gen. Sch.) (Val. Pub., Leg.)
Type sp. (orig. des.): Sporocytophaga myxococcoides (Krzemieniewska) Stanier 1940, 630. (Basionym: Cytophaga myxococcoides Krzemieniewska 1933, 400.)

S. congregata Fuller and Norman 1943, 567. (Sp. Sch.) (Val. Pub., Leg.)
Source: Soil.

S. ellipsospora (Imshenetsky and Solntseva) Stanier 1942, 190. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga ellipsospora Imshenetsky and Solntseva 1936, 1137.
Source: Soil.

S. myxococcoides (Krzemieniewska) Stanier 1940, 630. (Sp. Sch.) (Val. Pub., Leg.)
Cytophaga myxococcoides Krzemieniewska 1933, 140.
Micrococcus cytophagus Merker 1911, 589. (see Stanier 1942, 189.)
Spirochaeta cytophaga Hutchinson and Clayton 1919, 143. (see Stanier 1942, 189.)
Cytophaga globulosa Stapp and Bortels 1934, 47. (see Stanier 1942, 189.)
Cytophaga hutchinsonii Imshenetsky and Solntseva 1936, 1129. (see Stanier 1942, 189.)
not Cytophaga hutchinsonii Winogradsky 1929, 578. (see Stanier 1942, 189.)
Myxococcus hutchinsonii Imshenetsky and Solntseva 1940, 789. (see Stanier 1942, 189.)
Type sp. Sporocytophaga Stanier 1940, 629.
Source: Soil. Elodea leaves.

S. ochracea Ueda, Ishikawa, Itami and Asai 1952, 545. (Sp. Sch.) (Val. Pub., Leg.)
Source: Deer dung.

Stelangium Jahn 1924, 72. (Gen. Sch.) (Val. Pub., Leg.)
Type sp. (monotype): Stelangium muscorum (Thaxter) Jahn 1924, 72. (Basionym: Chondromyces muscorum Thaxter 1904, 411.)

S. muscorum (Thaxter) Jahn 1924, 72. (Sp. Sch.) (Val. Pub., Leg.)
Chondromyces muscorum Thaxter 1904, 411.

Stelangium muscorum (continued)
Apelmocoena muscorum (sic) (Thaxter) Enderlein 1924, 4.
Type sp. Stelangium Jahn 1924, 72.
Source: Liverworts on living beech trees.

S. vitreum Peterson 1959b, 163. (Sp. Sch.) (Val. Pub., Leg.)
Source: The bark of living trees.

Stigmatella Berkeley and Curtis in Berkeley 1857, Fig. 70b, 313 and Berkeley 1874, 97. (Gen. Fungi) (Val. Pub., Leg.)
Chondromyces Berkeley and Curtis in Berkeley 1857, 313.
Type sp. (monotype): Stigmatella aurantiaca Berkeley and Curtis 1857, 313.

S. aurantiaca Berkeley and Curtis in Berkeley 1857, 313. (Sp. Fungi) (Val. Pub., Leg.)
Chondromyces aurantiacus (Berkeley and Curtis) Thaxter 1892, 401. q.v.
Type sp. Stigmatella Berkeley and Curtis in Berkeley 1857, 313.
Source: "On Sphaeria Hibisci."

Stilbum Tode 1790, 10. (Gen. Fungi) (Val. Pub., Leg.)
Comment: Taken from Saccardo (1886) Sylloge Fungorum 4: 564.

S. rhytidosporum Berkeley and Broome 1873, 96. (Sp. Fungi) (Val. Pub., Leg.)
Chondromyces aurantiacus (Berkeley and Curtis) Thaxter 1892, 401, q.v.
Source:

Stipitatae Jahn 1911, 200. (Sect. Sch.) (Val. Pub., Leg.)
The third section of Myxococcus Thaxter; species M. stipitatus Thaxter.

Synangium Jahn 1924, 79. (Gen. Sch.) (Val. Pub., Illeg.: Rule 24a)
Apelmocoena Enderlein 1924, 14.

Synangium (continued)
Type sp. (subs. des.: Bergey et al. 1934, 604): Synangium sessile (Thaxter) Jahn 1924, 79. (Basionym: Chondromyces sessilis Thaxter 1904, 411.)
Comment: see Introduction p. 32.

S. lanuginosum (Kofler) Jahn 1924, 79. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces lanuginosus Kofler 1913, 861.
Apelmocoena lanuginosa (Kofler) Enderlein 1925, 243.
Synangium sessile (Thaxter) Jahn 1924, 79, q.v. (see Stanier 1957, 877.)
Source: Rabbit dung.

S. sessile (Thaxter) Jahn 1924, 79. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces sessilis Thaxter 1904, 411.
Apelmocoena sessilis (Thaxter) Enderlein 1924, 4.
Chondromyces lanuginosus Kofler 1913, 861. (see Stanier 1957, 877.)
Chondromyces thaxteri Faull 1913, 861. (see Stanier 1957, 877.)
Synangium lanuginosum (Kofler) Jahn 1924, 79. (see Stanier 1957, 877.)
Synangium thaxteri (Faull) Jahn 1924, 79. (see Stanier 1857, 877.)
Source: Decaying wood and dung of herbivores.

S. thaxteri (Faull) Jahn 1924, 79. (Sp. Sch.) (Val. Pub., Illeg.: Rule 24a)
Chondromyces thaxteri Faull 1916, 231.
Apelmocoena thaxteri (Faull) Enderlein 1925, 243.
Synangium sessile (Thaxter) Jahn 1924, 79, q.v. (see Stanier 1957, 877.)
Source: Deer dung.

SYNBACTERIES Pinoy 1913, 78.
A vernacular French name proposed to replace Myxobacteries.

Torula Persoon 1801, 693. (Gen. Fungi) (Val. Pub., Leg.)

T. myxococci incrustantis Zederbauer 1903, 475. (Sp. Fungi) (Val. Pub., Leg.)

Source: Sponge used to wet gummed paper.
Comment: See Myxococcus incrustantis Zederbauer 1903, 474.

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PROPOSAL FOR EMENDATION OF APPENDIX B OF THE INTERNATIONAL CODE OF NOMENCLATURE OF BACTERIA AND VIRUSES

Preliminary Statement

Editorial Board
International Committee on
Bacteriological Nomenclature

SUMMARY: A proposal is made to amend Appendix B "Alternative Spelling of Names and Epithets in Bacteriology: Orthographic Variants." The amendment is designed to make legitimate the corrected names of suprageneric taxa that were originally published with vernacular suffixes, with suffixes appropriate to a taxon of another rank or with suffixes as prescribed by the Zoological Code of Nomenclature. The corrected names are to be ascribed to the original author without prejudice.

A proposal to amend Appendix B, "Alternative Spelling of Names and Epithets in Bacteriology: Orthographic Variants", has been received from the collaborators engaged in the evaluation of the status of the names that have been proposed for the taxa of the Bacteria and Viruses for the forthcoming publication "Index Bergeyana." This volume will attempt to determine under the rules of the Bacteriological Code validity of publication and the legitimacy of the names of the bacterial and viral taxa that have been proposed. As a result of the examination of some thousands of such names of taxa it is believed that lacunae in the rules for determining the nomenclature status of names of certain suprageneric taxa should be filled. Emendation of Appendix B to the rules to clarify procedure is believed desirable.

It is proposed to amend Appendix B of the Code by the inclusion of an addition to the introductory paragraph and an additional section (d) following the three sections (a), (b) and (c). The following draft amendments are submitted.

I. Draft amendment to the introductory paragraph to Appendix B.

Delete the word "or" following the phrase "into Latin form" in the first sentence of the introductory paragraph; at the end of this first sentence delete the period (full stop) and add the following: "from vernacular names of suprageneric taxa, from use of an ending (suffix) prescribed in Rule 4 for the name of a suprageneric taxon of one rank instead of the appropriate (prescribed) ending (suffix) of the name of a suprageneric taxon of another rank, and from use of endings (suffixes) prescribed in the Zoological Code for names of suprageneric taxa."

If so amended, the introductory paragraph of Appendix B will read as follows:

"Alternative spellings (orthographic variants) of names or epithets found in the literature of microbiology frequently have resulted from alternative or faulty spelling of Latin words, from faulty or alternative transliteration of Greek words into Latin form, from faulty or alternative endings used to indicate gender or case when Greek words are transliterated, from alternative vernacular endings of names of suprageneric taxa, from use of an ending (suffix) prescribed in Rule 4 for the name of a suprageneric taxon of one rank instead of the appropriate (prescribed) ending (suffix) of the name of a suprageneric taxon of another rank, and from use of endings (suffixes) prescribed in the Zoological Code for names of suprageneric taxa. Authors of new names of taxa and of epithets are urged to make choices in conformity with the following recommendations:"

II. Draft amendment to follow (c) 2 of Appendix B.

(d) Alternative spellings of endings (suffixes) in names of suprageneric taxa.

1. Names of suprageneric taxa between genus and subclass which include the stem of the name of the type genus and which have been published with a vernacular ending (suffix) may be corrected without prejudice to the first author and date of publication. Example: Bacillacei Fischer, 1895, 139 was corrected to Bacillaceae Fischer 1895 by Lehmann and Neumann 1896.
2. Names of suprageneric taxa between genus and subclass designated by an author as having a given rank

but with a suffix (ending) appropriate only in another rank may be corrected without prejudice to the first author and date of publication.
Example: The name Amoebobacteriaceae Migula 1900, 1095 was designated as a subfamily. It may be corrected.

3. Names of suprageneric bacteria taxa between genus and subclass in which the ending (suffix) is that of a rank recognized in the zoological code may be corrected without prejudice to the first author and date.
Example: The name Schaudinnidae Enderlein 1917, 311 was proposed for a family. It may be corrected.

Notes.

1. No biological Code of nomenclature clearly outlines procedures to determine validity of publication or legitimacy of the three kinds of cases listed. There are many of these problems in bacteriology.
2. Names of suprageneric taxa between genus and subclass under the rule of the Bacteriological Code are formed by adding the appropriate taxon ending (suffix) to the stem of the type genus. The endings prescribed (Rule 4) are as follows:

Order	- ales	Subfamily	- oideae
Suborder	- ineae	Tribe	- eae
Family	- aceae	Subtribe	- inae